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(71) Applicant (for all designated States except US): **QINETIQ LIMITED** [GB/GB]; Registered Office 85, Buckingham Gate, London SW1E 6PD (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **PEARSON, Guy**,  
Neville [GB/GB]; Qinetiq Malvern, St Andrews Road,  
Malvern WR14 3PS (GB).

(74) Agent: **DAVIES, Philip**; IP Qinetiq Formalities, Cody  
Technology Park, A4 Building Ively Road, Farnborough,  
Hampshire GU14 0LX (GB).

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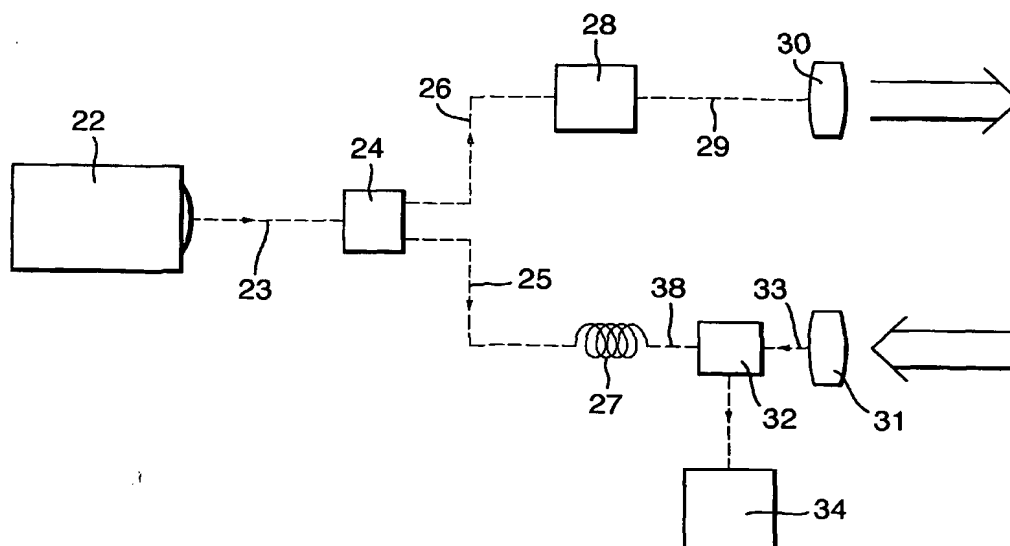
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[Continued on next page]

(54) Title: TRANSMISSION SYSTEM



(57) **Abstract:** An optical transmission system includes an optical source such as a laser having an optical output, this optical output being modulated such that it has periods of operation having a first set of characteristics interspersed with periods of operation having a second set of characteristics. The output is then split into at least two signals, and one of the signals delayed with respect to the other signal before the two are mixed, such that a portion of the modulated optical output having the first set of characteristics in one of the signals corresponds with a portion of the modulated optical output having the second set of characteristics of another of the signals. This allows a single optical source to provide to a receiver a local oscillator signal simultaneously with a data carrying signal. The system is particularly suitable for lidar applications, including gas sensing, but also has utility in data communications systems.

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<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 H04B G01N G01S		
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Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 170 218 A (KEENE WAYNE H) 8 December 1992 (1992-12-08)	1,2,9, 12, 17-22, 24,25
Y	column 1, line 54 -column 2, line 52; figures 1,4	3-8,10, 11,13-16
Y	US 5 030 824 A (BABBITT WILLIAM R) 9 July 1991 (1991-07-09) column 3, line 20 -column 4, line 19; figures 1,2	3-8,10, 11,13-16
<input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
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Information on patent family members

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